

CLAIMS.

1. Device for removal and filtration of drilling fluid in top hole drilling, where a suction module (10) comprises an extended pipe-formed body (30) which is open at the top and is arranged to an ocean-bottom penetrating pipe, through which is led a drill stem for drilling of the top hole, and where the pipe-formed body (30) comprises at least one outlet passage (32) in the pipe wall for export of return drilling fluid from the bore hole to a pump module (12), characterised in that the pipe-formed body (30) comprises a filtration device with through openings, where the mentioned openings are arranged to let through to at least one outlet passage (32), return drilling fluid containing dispersed material, such as swelling clay or stones of a size that is less than the diameter of the inlet pipe of the pump or openings of the pump.
2. Device according to claim 1, characterised in that the filtration device comprises an inner, extended and arched, perforated filtration plate (40) where at least one annular space, or parts of an annular space that is closed at the top and/or at the bottom, is provided between the inner pipe wall of the pipe-formed body (30) and the inner perforated filtration plate (40).
3. Device according to claim 2, characterised in that the annular space extends in the whole, or parts, of the longitudinal direction of the pipe-formed body (30) and/or its circumference.
4. Device according to claims 2-3, characterised in that the extended, perforated filtration plate (40) is formed in the shape of a pipe.
5. Device according to claims 1-4, characterised in that at least one outlet passage (32) in the mentioned pipe wall is connected to the suction pipe (22) of the pump (12).
6. Device according to claim 5, characterised in that the pipe wall of the pipe-formed body (30) comprises a number of outlet passages (32) arranged at a mutual distance apart

radially around the pipe wall, where the outlet passages (32) are connected to the suction pipe (22) of the pump (12).

7. Device according to claims 5 or 6, characterised in that at least one of the outlet passages (32) in the mentioned pipe wall is connected to a suction manifold (34), and that the suction pipe (22) of the pump is connected to the suction manifold (34).

8. Device according to claim 7, characterised in that the suction manifold (34) comprises a number of outlets with suction connection for the pump (12).

9. Device according to claims 1-8, characterised in that the suction module (10) comprises a lifting loop (42), or another appliance for connection of a lifting tool.

10. Device according to claims 1-9, characterised in that the upper part of the pipe-formed body (30) is arranged to contain return drilling fluid, such as drilling mud and cuttings, that are not fed to the pump module (12), and where the level/volume of the mentioned drilling fluid stands as a "plug" above the outlet for the suction pipe and is arranged to seal against the drill stem (16).

11. Device according to claim 10, characterised in that the level/volume of return drilling fluid in the pipe-formed body (30) is arranged to be adjusted by regulation of the capacity of the pump (12).

12. Device according to claim 11, characterised in that the suction module (10) comprises a camera (38) and/or a sonar for monitoring of the level of the drilling fluid, i.e. the "plug" of the return fluid, in the pipe-formed body (30), and that monitoring signals are sent to an operator for regulation of the capacity of the pump (12).

13. Device according to claim 11, characterised in that the suction module (10) comprises measuring equipment for monitoring of the level of drilling fluid, i.e. the "plug" of return drilling fluid, in the pipe-formed body (30), and that monitoring signals are sent

to an operator, or directly to the pump (12) for regulation of the capacity of the pump.

14. Device according to one or more of the preceding claims, characterized in that the suction module (10) is arranged to an ocean-bottom penetrating base plate (24) such as a spudding-in base, template or the like.

15. Device according to one or more of the preceding claims, characterized in that the suction module (10) and the pump module (12) are integrated into each other.

AMENDED CLAIMS

[received by the International Bureau on 02 May 2005 (02.05.05);
original claims 1-15 replaced by amended claims 1-12 (2 pages)]

NEW CLAIMS.

1. Device for removal and filtration of drilling fluid in top hole drilling, where a suction module (10) comprises an elongated pipe-formed body (30) which is open at the top and is arranged to an ocean-bottom penetrating pipe, through which is led a drill stem for drilling of the top hole, and the pipe-formed body (30) comprises a filtration device with through openings, where said openings are arranged to let through to at least one outlet passage (32) in the pipe wall, filtered return drilling fluid containing dispersed material, such as swelling clay or stones, characterised in that filtered return drilling fluid from the bore hole is exported to a pump module (12) through the at least one outlet passage (32) in the pipe wall, where the drilling fluid is of a size less than the diameter of an inlet pipe of the pump or openings of the pump, and that the upper part of the pipe-formed body (30) is arranged to contain return drilling fluid, which is not fed to the pump module (12), and where the level/volume of said drilling fluid stands as a "plug" above the outlet (32) for the pump's suction pipe (22) and is arranged to seal against the drill stem (16).
2. Device according to claim 1, characterised in that the level/volume of return drilling fluid in the pipe-formed body (30) is arranged to be adjusted by regulation of the capacity of the pump (12).
3. Device according to claim 2, characterised in that the suction module (10) comprises a camera (38) and/or a sonar for monitoring of the level of the drilling fluid, i.e. the "plug" of return drilling fluid, in the pipe-formed body (30), and that monitoring signals are sent to an operator for regulation of the capacity of the pump (12).
4. Device according to claim 2 or 3, characterised in that the suction module (10) comprises measuring equipment for monitoring of the level of drilling fluid, i.e. the "plug" of return drilling fluid, in the pipe-formed body (30),

and that monitoring signals are sent to an operator, or directly to the pump (12) for regulation of the capacity of the pump.

5. Device according to any of claims 1-4, characterised in that the filtration device comprises an inner, elongated and arched, perforated filtration plate (40) where at least one annular space, or parts of an annular space that is closed at the top and/or at the bottom, is provided between the inner pipe wall of the pipe-formed body (30) and the inner perforated filtration plate (40).

6. Device according to claim 5, characterised in that the annular space extends in the whole, or parts, of the longitudinal direction of the pipe-formed body (30) and/or its circumference.

7. Device according to claims 5 and 6, characterised in that the elongated, perforated filtration plate (40) is formed in the shape of a pipe.

8. Device according to any of claims 1-7, characterised in that the pipe wall of the pipe-formed body (30) comprises a number of outlet passages (32) arranged spaced apart radially around the pipe wall, where the outlet passages (32) are connected to the suction pipe (22) of the pump (12).

9. Device according to claim 8, characterised in that at least one of the outlet passages (32) in said pipe wall is connected to a suction manifold (34), and that the suction pipe (22) of the pump is connected to the suction manifold (34).

10. Device according to claim 9, characterised in that the suction manifold (34) comprises a number of outlets with suction connection for the pump (12).

11. Device according to any of claims 1-10, characterised in that the suction module (10) comprises a lifting loop (42), or another appliance for connection of a lifting tool.

12. Device according to any of claims 1-11, characterised in that the suction module (10) and the pump module (12) are integrated with each other.